

Planning Secretary's Environmental Assessment Requirements

Section 4.12(8) of the *Environmental Planning and Assessment Act 1979*
Schedule 2 of the Environmental Planning and Assessment Regulation 2000

Application Number	SSD-10412
Project Name	Breen Resource Recovery Facility
Development	The construction and operation of a resource recovery facility to process up to approximately 500,000 tonnes per year of construction and demolition (C&D) and commercial and industrial (C&I) wastes and the rehabilitation of land using recovered resources.
Location	330 Captain Cook Drive, Kurnell in the Sutherland Shire
Applicant	Breen Resources Pty Ltd
Date of Issue	14/02/2020
General Requirements	The Environmental Impact Statement (EIS) for the development must meet the form and content requirements in clauses 6 and 7 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (the Regulation). In addition, the EIS must include a: · detailed description of the development, including: - accurate history of the site, including development consents; - need for the proposed development; - justification for the proposed development; - staging of the development; - interactions between the development and existing, approved and proposed operations in the vicinity of the site; - interactions between the development and the existing Voluntary Planning Agreement (VPA) - plans of any proposed building works; and - contributions required to offset the proposal. · consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments; · consideration of issues discussed in Attachment 2 (public authority responses to key issues); · risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment; · detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: - a description of the existing environment, using sufficient baseline data; - an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; and

	- a description of the measures that would be implemented to avoid, minimise, mitigate and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage significant risks to the environment. · a consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS. The EIS must also be accompanied by a report from a qualified quantity surveyor providing: · a detailed calculation of the capital investment value (CIV) of the proposal as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000, including details of all components of the CIV; · a close estimate of the jobs that will be created by the development during the construction and operational phases of the development; and · certification that the information provided is accurate at the date of preparation.
Key issues	The EIS must address the following specific matters: · Suitability of the Site – including: - details of all development consents and approved plans previously and/or currently applicable to the site, including for the current waste management operations; - details of all legal requirements to deliver the recreation facilities and parklands, including any current Voluntary Planning Agreement (VPA); - details of phasing or staging of the development in order to deliver the proposed recreation facilities and parklands including relocating the existing waste management facility; and - a detailed justification that the site can accommodate the proposed resource recovery facility, having regard to the scope of the proposed operation, its environmental impacts and relevant mitigation measures. · Community and Stakeholder Engagement – including: - a detailed community and stakeholder participation strategy which identifies who in the community has been consulted and a justification for their selection, other stakeholders consulted and the form(s) of the consultation, including a justification for this approach; - a report on the results of the implementation of the strategy including issues raised by the community and surrounding landowners and occupiers that may be impacted by the proposal; - details of how issues raised during community and stakeholder consultation have been addressed and whether they have resulted in changes to the proposal; - details of consultation regarding the approach to the provision of recreation facilities and parklands and the need for any variation to the VPA, including evidence of consultation with Council; and - details of the proposed approach to future community and stakeholder engagement based on the results of the consultation. · Waste Management – including: - a description of each of the waste streams that would be accepted at the site including maximum daily, weekly and annual throughputs and the

maximum size for stockpiles;

- details of the source of the waste streams to justify the need for the proposed processing capacity;
- a description of waste processing operations (including flow diagrams for each waste stream), including a description of the technology to be installed, resource outputs and the quality control measures that would be implemented;
- details of how waste would be stored (including the maximum daily storage capacity of the site) and handled on site, and transported to and from the site including details of how the receipt of non-conforming waste would be dealt with;
- details of the development's waste tracking system for incoming and outgoing waste;
- details of the quality of separated material produced and final dispatch locations;
- details of the waste management strategy for construction and ongoing operational waste generated;
- the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021*; and
- details of consistency with the EPA's Standards for Managing Construction Waste in NSW (November 2018).

• **Soils and Water** – including:

- characterisation of the nature and extent of any contamination of the site based on the historic use as a landfill and a description of proposed measures;
- an assessment of potential impacts to soil and water resources, topography, hydrology, groundwater, drainage lines, watercourses and riparian lands on or nearby the site, including mapping and description of existing background conditions and cumulative impacts;
- a detailed site water balance including identification of water requirements for the life of the project, measures that would be implemented to ensure an adequate and secure water supply is available for the proposal and a detailed description of the measures to minimise the water use at the site;
- characterisation of water quality at the point of discharge to surface and/or groundwater against the relevant water quality criteria (including details of the contaminants of concern that may leach from the waste into the wastewater and proposed mitigation measures to manage any impacts to receiving waters and monitoring activities and methodologies);
- details of stormwater/wastewater management system including the capacity of onsite detention system(s), onsite sewage management and measures to treat, reuse or dispose of water;
- a description of erosion and sediment controls; and
- a detailed flooding assessment.

• **Heritage and Aboriginal Cultural Heritage** – including:

- identification and description of the relevant non-Aboriginal heritage items, including built heritage, landscapes and archaeology, that exist across the

development - documented in a Statement of Heritage Impact (SOHI);

- a description and assessment of potential impacts on non-Aboriginal heritage item(s) such as Cronulla sand dune and Wanda Beach coastal landscape, Towra Point Nature Reserve and Quibray Bay;
- measures to avoid and/or mitigate the impact on the heritage significance or cultural heritage values of the site and the surrounding heritage item(s);
- identification and description of the Aboriginal cultural heritage values that exist across the development - documented in an Aboriginal Cultural Heritage Assessment Report (ACHAR);
- consultation with Aboriginal people must be undertaken and documented in the ACHAR; and
- a description and assessment of potential impacts on Aboriginal cultural heritage values such as Cronulla Sand Dune and Wanda Beach Coastal Landscape.

• **Visual** – including:

- a detailed design analysis of the proposed development with reference to the building form, height, setbacks, bulk and scale in the context of the immediate locality, the wider area and the desired future character of the area, including views, vistas, open space and the public domain
- a detailed assessment (including photomontages and perspectives) of the facility (buildings and storage areas) including height, colour, scale, building materials and finishes, signage and lighting, particularly from nearby public receivers and significant or important vantage points of the broader public domain
- consideration of the layout and design of the development having regard to the surrounding vehicular, pedestrian and cycling networks

• **Air Quality and Odour** – including:

- a quantitative assessment of the potential air quality, dust and odour impacts of the development in accordance with relevant Environment Protection Authority guidelines;
- the details of buildings and air handling systems and strong justification for any material handling, processing or stockpiling external to buildings;
- a greenhouse gas assessment; and
- details of proposed mitigation, management and monitoring measures.

• **Noise and Vibration** – including:

- a quantitative assessment of potential construction, operational and transport noise and vibration impacts in accordance with relevant Environment Protection Authority guidelines and undertaken by a suitably qualified and experienced person(s); and
- details and justification of the proposed noise mitigation and monitoring measures.

• **Traffic and Transport** – including:

- details of all traffic types and volumes likely to be generated during construction and operation, including a description of haul routes. Traffic flows are to be shown diagrammatically to a level of detail sufficient for easy

	interpretation; - plans demonstrating how all vehicles likely to be generated during construction and operation and awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network; - an assessment of the predicted impacts of this traffic on road safety and the capacity of the road network, including consideration of cumulative traffic impacts at key intersections using SIDRA or similar traffic model; - swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site; - plans of any proposed road upgrades, infrastructure works or new roads required for the development; and - an assessment of potential impacts on local road pavement lifespan. • Fire and Incident Management – including: - identification of the aggregate quantities of combustible waste products to be stockpiled at any one time; - technical information on the environmental protection equipment to be installed on the premises such as air, water and noise controls, spill clean-up equipment and fire (including location of fire hydrants and water flow rates at the hydrant) management and containment measures; - details regarding the fire hydrant system and its minimum water supply capabilities appropriate to the site's largest stockpile fire load; - details of size and volume of stockpiles and their management and separation to minimise fire spread and facilitate emergency vehicle access; - consideration of consistency with NSW Fire & Rescue Fire Safety Guideline – Fire Safety in Waste Facilities (October 2019); and - detailed information relating to the proposed structures addressing relevant levels of compliance with Volume One of the National Construction Code (NCC). • Hazard – including: - a preliminary risk screening completed in accordance with <i>State Environmental Planning Policy No. 33 – Hazardous and Offensive Development</i> and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is “potentially hazardous” a Preliminary Hazard Analysis (PHA) must be prepared in accordance with <i>Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis</i> (DoP, 2011) and <i>Multi-Level Risk Assessment</i> (DoP, 2011). • Coastal Management – including: - an assessment of the potential impacts on coastal wetlands and littoral rainforests in accordance with the <i>Coastal Management Act 2016</i>. • Biodiversity – including: - an assessment of the biodiversity impacts in accordance with the <i>Biodiversity Assessment Method</i> and documented in a Biodiversity Development Assessment Report (BDAR).
Consultation	During the preparation of the EIS, you must consult with the relevant local, State or

	Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with: · NSW Environment Protection Authority · Climate Change and Sustainability Division of the Department of Planning, Industry and Environment (formerly Office of Environment and Heritage) · Department of Industry · Transport for NSW · NSW Roads and Maritime Services · NSW Fire and Rescue · Sutherland Shire Council · Local community and other stakeholders. The EIS must describe the consultation process and the issues raised and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.
Further consultation after 2 years	If you do not lodge a Development Application and EIS for the development within 2 years of the issue date of these SEARs, you must consult further with the Secretary in relation to the preparation of the EIS.
References	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this proposal.

ATTACHMENT 1

Technical and Policy Guidelines

The following guidelines may assist in the preparation of the environmental impact statement. This list is not exhaustive and not all of these guidelines may be relevant to your proposal.

Many of these documents can be found on the following websites:

<http://www.planning.nsw.gov.au>

<http://www.bookshop.nsw.gov.au>

<https://www.australia.gov.au/about-government/publications>

Plans and Documents

The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents.

In addition, the EIS must include the following:

1. An existing site survey plan drawn at an appropriate scale illustrating:
 - the location of the land, boundary measurements, area (sqm) and north point
 - the existing levels of the land in relation to buildings and roads
 - location and height of existing structures on the site
 - location and height of adjacent buildings and private open space
 - all levels to be to Australian Height Datum (AHD).
2. Locality/context plan drawn at an appropriate scale should be submitted indicating:
 - significant local features such as heritage items
 - the location and uses of existing buildings, shopping and employment areas
 - traffic and road patterns, pedestrian routes and public transport nodes.
3. Drawings at an appropriate scale illustrating:
 - detailed plans, sections and elevations of the existing building, which clearly show all proposed internal and external alterations and additions.

Documents to be Submitted

Documents to submit include:

- 1 hard copy and 1 electronic copy of all the documents and plans for review prior to exhibition
- Other copies as determined by the Department once the development application is lodged.

Policies, Guidelines & Plans

Aspect	Policy /Methodology
Waste	Waste Avoidance and Resource Recovery Strategy 2014-2021 (EPA)
	The National Waste Policy: Less Waste More Resources 2009
	Waste Classification Guidelines (EPA 2008)
	Environmental guidelines: Composting and Related Organics Processing Facilities (DEC 2004)
	Environmental guidelines: Use and Disposal of Biosolid Products (EPA 1997)
	Composts, soil conditioners and mulches (Standards Australia, AS 4454)
	NSW Energy from Waste Policy Statement (EPA 2015)
	Standards for Managing Construction Waste in NSW (EPA 2018)
Air Quality and Odour	
Air Quality	Protection of the Environment Operations (Clean Air) Regulation 2010
	Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA 2016)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC)
Odour	Assessment and Management of Odour from Stationary Sources in NSW (DEC 2006)
Greenhouse Gas	The National Greenhouse and Energy Reporting (Measurement) Technical Guidelines (NGER Technical Guidelines)
	Guidelines for Energy Savings Action Plans (DEUS 2005)
Human Health Risk	
	Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards (enHealth 2012)
Traffic and Transport	
	Guide to Traffic Generating Development (RTA)
	Guide to Traffic Management Part 12: Traffic Impacts of Developments (Austroads 2016)
	NSW Long Term Transport Master Plan (TfNSW 2012)
	Road Design Guide (RTA)
Soil and Water	
Soil	Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC & NHMRC)
	National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC)
	Draft Guidelines for the Assessment & Management of Groundwater Contamination

	(DECC)
	State Environmental Planning Policy No. 55 – Remediation of Land
	Managing Land Contamination – Planning Guidelines SEPP 55 – Remediation of Land (DOP)
	Acid Sulphate Soils Manual (Stone <i>et al.</i> 1998)
Surface Water	National Water Quality Management Strategy: Water quality management - an outline of the policies (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Policies and principles - a reference document (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Implementation guidelines (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ)
	Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)
	NSW State Rivers and Estuaries Policy (1993)
	State Water Management Outcomes Plan
	NSW Government Water Quality and River Flow Environmental Objectives (DECC)
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)
	Managing Urban Stormwater: Soils & Construction (Landcom 2004)
	Managing Urban Stormwater: Treatment Techniques (DECC 1997)
	Managing Urban Stormwater: Source Control (DECC)
	Technical Guidelines: Bunding & Spill Management (DECC)
	NSW Floodplain Development Manual 2005
	NSW Guidelines for Controlled Activities on Waterfront Land (NOW 2012)
Groundwater	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC 1995)
	NSW State Groundwater Policy Framework Document (DLWC 1997)
	NSW State Groundwater Quality Protection Policy (DLWC 1998)
	NSW State Groundwater Dependent Ecosystems Policy (DLWC 2002)
	NSW State Groundwater Quantity Management Policy (DLWC 2002)
	Guidelines for the Assessment and Management of Groundwater Contamination (DEC 2007)
	NSW Aquifer Interference Policy (NOW 2012)
	MDBC Guidelines on Groundwater Flow Modelling 2000
	Australian Groundwater Modelling Guidelines (NWC 2012)
Wastewater	Environmental Guidelines: Use of Effluent by Irrigation (DECC 2004)
	Environmental Guidelines: Storage and Handling of Liquids (DECC 2007)

National Water Quality Management Strategy - Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) 2006 (EPHC, NRMMC & AHMC)

National Water Quality Management Strategy – Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 2): Augmentation of Drinking Water Supplies 2008 (EPHC, NRMMC & AHMC)

National Water Quality Management Strategy: Guidelines for Sewerage Systems - Effluent Management (ARMCANZ/ANZECC)

National Water Quality Management Strategy: Guidelines for Sewerage Systems - Use of Reclaimed Water (ARMCANZ/ANZECC)

Recycled Water Guidance Document: Recycled Water Management Systems (DPI 2015)

Noise and Vibration

Noise	Noise Policy for Industry (EPA 2017)
	NSW Road Noise Policy (EPA 2011)
	Environmental Criteria for Road Traffic Noise (EPA 1999)
	Interim Construction Noise Guideline (DECC 2009)
Vibration	Assessing Vibration: A Technical Guideline (DEC 2006)
	Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration (ANZECC 1990)

Fire and Incident Management

- Planning for Bushfire Protection (NSW Rural Fire Service 2006)
- Draft Planning for Bushfire Protection (NSW Rural Fire Service 2018)
- Draft Fire Safety in Waste Facilities Guideline (NSW Fire and Rescue NSW 2018)

Hazards and Risk

- State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
- Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines (DUAP)
- AS/NZS 4360:2004 Risk Management
- HB 203:2006 Environmental Risk Management – Principles and Process
- Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis
- Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning (DUAP)
- Contaminated Sites – Guidelines on Significant Risk of Harm from Contaminated Land and the Duty to Report (EPA 2003)

Biodiversity

- Biodiversity Assessment Method (2017)

Heritage	
	Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)
	Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010)
	Draft Guidelines for Aboriginal Cultural Impact Assessment and Community Consultation (Department of Planning 2005)
	Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010)
Social	
	Social impact assessment guideline for State significant mining, petroleum production and extractive industry development (2017)
Visual	
	Control of Obtrusive Effects of Outdoor Lighting (Standards Australia, AS 4282)
	State Environmental Planning Policy No 64 - Advertising and Signage

ATTACHMENT 2

Government Authority Responses to Request for Key Issues

OUT19/17036

Ms Katelyn Symington
Planning and Assessment Group
NSW Department of Planning, Industry and Environment

katelyn.symington@planning.nsw.gov.au

Dear Ms Symington

Breen Resource Recovery Facility (SSD-10412) (Sutherland Shire)

I refer to the above matter that was distributed to the Department of Primary Industries (DPI) for comment on 13 December 2019.

DPI has reviewed the project proposal and has the following comments and advice.

Towra Point Aquatic Reserve is an area set aside for the conservation of biodiversity and the area closest to the Breen site (Quibray and Weeney Bays) is designated as an area with a total prohibition on the taking of plants and animals. The waters of the TPAR support a diversity of flora and fauna, including a number of listed species, which have been outlined in the EPBC Protected Matters Report. Contamination of the reserve's water with effluent containing toxins, nutrients, or other matter would interfere with the values of the reserve and decrease its ability to support processes that support biodiversity. There is connectivity of the groundwater underlying the Breen site and the tidal waters of the reserve.

There is a network of groundwater monitoring bores around the Breen site. In 2016, the water at some of the monitoring bores at the perimeter were found to contain indicators of organic waste contamination (ammonia) and there was a flow in the aquifer north-easterly towards the reserve noted. Therefore, there is an existing capacity for groundwater contaminants to leave the site in the aquifer and to move towards the AR. Increases to either the rate of aquifer transport or concentration of aquifer contaminants will result in a greater load of contaminants being delivered to the AR, which would be undesirable.

The Scoping Report states that "Aquifer Interference Approval is not expected to be required for their construction", which means the works are not expecting to disturb the groundwater at the moment.

DPI suggest that the following options be undertaken:

- If Aquifer Interference Approval **is not** required for the project no additional groundwater monitoring need be conducted
- If Aquifer Interference Approval **is** required for the project then it is mandatory that an impact assessment to estimate annual contaminant loads leaving the site be conducted. This will assist in quantifying the impact on the water quality of the bays nearby.



For further information please contact Matthew Dasey on 4428 3006.

Yours sincerely

A handwritten signature in black ink, appearing to read "C. McNamara".

Cassandra McNamara
Manager, Coordination
DPIE DPI – Strategy & Policy
18 December 2019



Our ref: DOC19/1089481

Senders ref: SSD 10412 (Sutherland)

Katelyn Symington
Senior Environmental Assessment Officer
Industry Assessments
Department of Planning, Industry and Environment
GPO Box 39
Sydney NSW 2001

Dear Ms Symington,

Subject: Request for SEARs for Breen Resource Recovery Facilities Kurnell - SSD 10412

Thank you for your letter received on 16 December 2019, requesting input from Environment, Energy and Science Group (EES) in the Department of Planning, Industry and Environment on the SEARs for Breen Resource Recovery Facilities, located at Captain Cook Drive, Kurnell - (SSD 10412) (Sutherland)

EES has reviewed the scoping report prepared by Ethos Urban dated 10 December 2019 and provides the following comments and recommendations at **Attachment A**.

Aboriginal Cultural Heritage

EES recommends the SEARs include the attached Aboriginal cultural heritage requirements.

Biodiversity

EES recommends the SEARs include the attached biodiversity requirements.

Flooding

EES recommends the SEARs include the attached flooding requirements.

Soil and Water

EES recommends the SEARs include the attached water and soils requirements.

Should you have any queries regarding this matter, please contact Bronwyn Smith, Senior Conservation Planning Officer on 9873 8604 or Bronwyn.smith@environment.nsw.gov.au.

Yours sincerely

S. Harrison 20/12/19

Susan Harrison
Senior Team Leader Planning
Greater Sydney Branch
Climate Change and Sustainability

Attachment A – EES Environmental Assessment Requirements – Breen Resource Recovery Facilities located at Captain Cook Drive, Kurnell - SSD 10412 (Sutherland)

Aboriginal cultural heritage

1. Identify and describe the Aboriginal cultural heritage values that exist across the whole area that would be affected by the development and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010), and guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011).
2. Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.
3. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.

Note that due diligence is not an appropriate assessment, an ACHAR is required.

Biodiversity

4. Biodiversity impacts related to the proposed development are to be assessed in accordance with Section 7.9 of the Biodiversity Conservation Act 2017 the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the Biodiversity Conservation Act 2016 (s6.12), Biodiversity Conservation Regulation 2017 (s6.8) and Biodiversity Assessment Method, including an assessment of the impacts of the proposal (including an assessment of impacts prescribed by the regulations).
5. The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method.

6. The BDAR must include details of the measures proposed to address the offset obligation as follows;
- The total number and classes of biodiversity credits required to be retired for the development/project;
 - The number and classes of like-for-like biodiversity credits proposed to be retired;
 - The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules;
 - Any proposal to fund a biodiversity conservation action;
 - Any proposal to conduct ecological rehabilitation (if a mining project);
 - Any proposal to make a payment to the Biodiversity Conservation Fund.
- If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits.
7. The BDAR must be submitted with all spatial data associated with the survey and assessment as per Appendix 11 of the BAM.
8. The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the Biodiversity Conservation Act 2016.

Water and soils

9. The EIS must map the following features relevant to water and soils including:
- a. Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map).
 - b. Rivers, streams, wetlands, estuaries (as described in s4.2 of the Biodiversity Assessment Method).
 - c. Wetlands as described in s4.2 of the Biodiversity Assessment Method.
 - d. Groundwater.
 - e. Groundwater dependent ecosystems
 - f. Proposed intake and discharge locations
10. The EIS must describe background conditions for any water resource likely to be affected by the development, including:
- a. Existing surface and groundwater.
 - b. Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.

- c. Water Quality Objectives (as endorsed by the NSW Government <http://www.environment.nsw.gov.au/ieo/index.htm>) including groundwater as appropriate that represent the community's uses and values for the receiving waters.
- d. Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.
- e. Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions <http://www.environment.nsw.gov.au/research-and-publications/publications-search/risk-based-framework-for-considering-waterway-health-outcomes-in-strategic-land-use-planning>

11. The EIS must assess the impact of the development on hydrology, including:

- a. Water balance including quantity, quality and source.
- b. Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.
- c. Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.
- d. Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches).
- e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.
- f. Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options.
- g. Identification of proposed monitoring of hydrological attributes.

Flooding and coastal hazards

12. The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:

- a. Flood prone land.
- b. Flood planning area, the area below the flood planning level.
- c. Hydraulic categorisation (floodways and flood storage areas)
- d. Flood Hazard.

13. The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 5% Annual Exceedance Probability (AEP), 1% AEP, flood levels and the probable maximum flood, or an equivalent extreme event.
14. The EIS must model the effect of the proposed development (including fill) on the flood behaviour under the following scenarios:
 - a. Current flood behaviour for a range of design events as identified in 14 above. This includes the 0.5% and 0.2% AEP year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.
15. Modelling in the EIS must consider and document:
 - a. Existing council flood studies in the area and examine consistency to the flood behaviour documented in these studies.
 - b. The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood, or an equivalent extreme flood.
 - c. Impacts of the development on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazard categories and hydraulic categories
 - d. Relevant provisions of the NSW Floodplain Development Manual 2005.
16. The EIS must assess the impacts on the proposed development on flood behaviour, including:
 - a. Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure.
 - b. Consistency with Council floodplain risk management plans.
 - c. Consistency with any Rural Floodplain Management Plans.
 - d. Compatibility with the flood hazard of the land.
 - e. Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.
 - f. Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.
 - g. Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
 - h. Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the NSW SES and Council.

- i. Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the NSW SES and Council.
- j. Emergency management, evacuation and access, and contingency measures for the development considering the full range of flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the NSW SES.
- k. Any impacts the development may have on the social and economic costs to the community as consequence of flooding.

(END OF SUBMISSION)

Ms Katelyn Symington
Senior Environmental Assessment Officer
Industry Assessments, DPIE
GPO Box 39
SYDNEY NSW 2001

Notice Number 1589878
Date 10-Jan-2020

RE: Construction and operation of a resource recovery facility - SSD-10412
Breen Resources Pty Ltd - Captain Cook Dr, Kurnell

I refer to your request for the Environment Protection Authority's (**EPA**) requirements for the environmental assessment (**EA**) in regard to the above proposal received by the EPA on 13 December 2019.

The EPA has considered the details of the proposal as provided by the Applicant and has identified the information it requires to issue its general terms of approval in Attachment A & B. In summary, the EPA's key information requirements for the proposal include an adequate assessment of:

1. Air quality and odour;
2. Stormwater and leachate management;
3. Waste management.

In carrying out the assessment, the Applicant should refer to the relevant guidelines as listed in Attachment C and any relevant industry codes of practice and best practice management guidelines.

The Applicant should be made aware that any commitments made in the EA may be formalised as approval conditions and may also be placed as formal licence conditions.

The Applicant should be made aware that, consistent with provisions under Part 9.4 of the *Protection of the Environment Operations Act 1997 (the Act)* the EPA may require the provision of a financial assurance and/or assurances. The amount and form of the assurance(s) would be determined by the EPA and required as a condition of an Environment Protection Licence (**EPL**).

In addition, as a requirement of an EPL, the EPA will require the Applicant to prepare, test and implement a Pollution Incident Response Management Plan and/or Plans in accordance with Section 153A of the Act.

Please note that the EPA has not considered Aboriginal cultural heritage, biodiversity or built form/urban design requirements as these are the purview of the Environment, Energy and Science Group (EES) within the Department of Planning, Industry and Environment.

Yours sincerely

A handwritten signature in black ink, appearing to read "CFE", with a large, stylized flourish extending from the end.

Celeste Forestal
Unit Head
Sydney Waste Compliance
(by Delegation)

ATTACHMENT A - Site specific requirements for the proposal

Breen Resources Pty Ltd propose to construct and operate a new resource recovery facility at its existing facility located at Captain Cook Drive, Kurnell. The facility will receive up to 500,000 tonnes of building and demolition waste, and commercial and industrial waste. The site specific requirements for the proposal are set out below:

1. The Facility must be enclosed – The EPA requires that all waste and materials are stored and processed inside an enclosed building. All waste handling activities, including receipt, sorting, processing, sampling, quarantine, storage and loading must be conducted within an enclosed building.

No waste, including finished products, may be stored outside. Any external haulage areas or roads must be sealed hardstand. Any unused external surfaces must be sealed hardstand or vegetated.

2. Waste Management – the environmental impact statement (EIS) must include a detailed assessment of the waste management processes to be undertaken at the Premises. This includes but is not limited to:

- details of the sources of waste to be received at the Premises;
- details of the types and quantities of each type of waste to be received at the Premises;
- details of the maximum volume of waste to be stored on the Premises at any one time;
- details of the maximum annual throughput of waste for be processed at the Premises;
- a description of waste processing procedures for each waste type;
- a description of how the proponent will meet the EPA's record keeping and reporting requirements, including weighing material in and out of the Premises (refer to the EPA's Waste Levy Guidelines for more information – available at

<http://www.epa.nsw.gov.au/your-environment/waste/waste-levy>);

- a detailed site plan(s) identifying areas for:
 - haulage;
 - waste receipt, processing, storage and loading (for each waste type)
 - quarantine;
 - infrastructure for environmental controls including dust, noise, water and wheelwash;
 - weighbridge;
 - site boundaries;
 - stormwater drainage areas; and
 - unused stabilised areas;
- details of the type and quantities of materials to be produced and their intended fate;
- details of any materials produced under a Resource Recovery Order, and the controls in place for meeting the conditions of that order;
- a description of procedures for dealing with non-conforming waste (i.e. waste not permitted to be received at the Premises).

3. Water Management – the EPA expects that assessment of the impacts to water be included in the application. This must include as a minimum characterisation of any proposed discharges from the premises (both volume and quality), assessment of the potential impacts from these discharges and proposed mitigation measures to manage any impacts. Discharges includes, but are not limited to stormwater (contaminated and uncontaminated), and waste water (such as from dewatering). Please refer to Attachment B for detail of what is to be included in assessment of water impacts.

The EPA would expect that any buildings are constructed to exclude all stormwater and that internal surfaces be graded inwards to contain any contaminated water (being any water that has come into contact with waste). The EPA notes that even where all waste storage and processing is conducted within an enclosed building, waste may be tracked on to external surfaces leading to the generation of contaminated water. Any external areas where waste vehicles travel or wait for loading/unloading must drain to a stormwater quality treatment device sufficient to remove any contaminants, both solid and dissolved, prior to discharge offsite.

Changes to the Protection of the Environment Operations (Waste) Regulation

The Applicant should be aware that changes to the Protection of the Environment Operations (Waste) Regulation commenced on 16 November 2018, which legislates "Standards for managing construction waste in NSW" (<https://www.epa.nsw.gov.au/publications/managewaste/18p1270-standards-for-managing-construction-waste-in-nsw>). These standards must be complied with from 16 May 2019, regardless of when approval was given for the facility. The EPA encourages the Applicant to be fully aware of these legislative requirements and ensure their operations are compliant.

ATTACHMENT B - General requirements for the proposal

How to use these requirements

The EPA requirements have been structured in accordance with the DIPNR EIS Guidelines, as follows. It is suggested that the EIS follow the same structure:

- A. Executive summary
- B. The proposal
- C. The location
- D. Identification and prioritisation of issues
- E. The environmental issues
- F. List of approvals and licences
- G. Compilation of mitigation measures
- H. Justification for the proposal

A Executive summary

The executive summary should include a brief discussion of the extent to which the proposal achieves identified environmental outcomes.

B The proposal

1. Objectives of the proposal

- The objectives of the proposal should be clearly stated and refer to:
 - a) the size and type of the operation, the nature of the processes and the products, by-products and wastes produced
 - b) a life cycle approach to the production, use or disposal of products
 - c) the anticipated level of performance in meeting required environmental standards and cleaner production principles
 - d) the staging and timing of the proposal and any plans for future expansion
 - e) the proposal's relationship to any other industry or facility.

2. Description of the proposal

General

- Outline the production process including:
 - a) the environmental "mass balance" for the process – quantify in-flow and out-flow of materials, any points of discharge to the environment and their respective destinations (sewer, stormwater, atmosphere, recycling, landfill etc)
 - b) any life-cycle strategies for the products.
- Outline cleaner production actions, including:
 - a) measures to minimise waste (typically through addressing source reduction)
 - b) proposals for use or recycling of by-products
 - c) proposed disposal methods for solid and liquid waste
 - d) air management systems including all potential sources of air emissions, proposals to re-use or treat emissions, emission levels relative to relevant standards in regulations, discharge points
 - e) water management system including all potential sources of water pollution, proposals for re-use, treatment etc, emission levels of any wastewater discharged, discharge points, summary of options explored to avoid a discharge, reduce its frequency or reduce its impacts, and rationale for selection of option to discharge.
 - f) soil contamination treatment and prevention systems.
- Outline construction works including:
 - a) actions to address any existing soil contamination
 - b) any earthworks or site clearing; re-use and disposal of cleared material (including use of spoil on-site)
 - c) construction timetable and staging; hours of construction; proposed construction methods

- d) environment protection measures, including noise mitigation measures, dust control measures and erosion and sediment control measures.
- Include a site diagram showing the site layout and location of environmental controls.

Air

- Identify all sources or potential sources of air emissions from the development.

Note: emissions can be classed as either:

- *point (e.g. emissions from stack or vent) or*
- *fugitive (from wind erosion, leakages or spillages, associated with loading or unloading, conveyors, storage facilities, plant and yard operation, vehicle movements (dust from road, exhausts, loss from load), land clearing and construction works).*
- Provide details of the project that are essential for predicting and assessing air impacts including:
 - a) the quantities and physio-chemical parameters (e.g. concentration, moisture content, bulk density, particle sizes etc) of materials to be used, transported, produced or stored
 - b) an outline of procedures for handling, transport, production and storage
 - c) the management of solid, liquid and gaseous waste streams with potential to generate emissions to air.

Noise and vibration

- Identify all noise sources or potential sources from the development (including both construction and operation phases). Detail all potentially noisy activities including ancillary activities such as transport of goods and raw materials.
- Specify the times of operation for all phases of the development and for all noise producing activities.
- For projects with a significant potential traffic noise impact provide details of road alignment (include gradients, road surface, topography, bridges, culverts etc), and land use along the proposed road and measurement locations – diagrams should be to a scale sufficient to delineate individual residential blocks.

Water

- Provide details of the project that are essential for predicting and assessing impacts to waters including:
 - a) the quantity and physio-chemical properties of all potential water pollutants and the risks they pose to the environment and human health, including the risks they pose to Water Quality Objectives in the ambient waters (as defined on <http://www.environment.nsw.gov.au/ieo/index.htm>, using technical criteria derived from *the Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, ANZECC 2000)
 - b) the management of discharges with potential for water impacts
 - c) drainage works and associated infrastructure; land-forming and excavations; working capacity of structures; and water resource requirements of the proposal.

- Outline site layout, demonstrating efforts to avoid proximity to water resources (especially for activities with significant potential impacts e.g. effluent ponds) and showing potential areas of modification of contours, drainage etc.
- Outline how total water cycle considerations are to be addressed showing total water balances for the development (with the objective of minimising demands and impacts on water resources). Include water requirements (quantity, quality and source(s)) and proposed storm and wastewater disposal, including type, volumes, proposed treatment and management methods and re-use options.

Waste and chemicals

Provide details of the quantity and type of both liquid waste and non-liquid waste generated, handled, processed or disposed of at the premises. Waste must be classified according to the EPA's *Waste Classification Guidelines 2014 (as amended from time to time)*

- Provide details of liquid waste and non-liquid waste management at the facility, including:
 - a) the transportation, assessment and handling of waste arriving at or generated at the site
 - b) any stockpiling of wastes or recovered materials at the site
 - c) any waste processing related to the facility, including reuse, recycling, reprocessing (including composting) or treatment both on- and off-site
 - d) the method for disposing of all wastes or recovered materials at the facility
 - e) the emissions arising from the handling, storage, processing and reprocessing of waste at the facility
 - f) the proposed controls for managing the environmental impacts of these activities.
- Provide details of spoil disposal with particular attention to:
 - a) the quantity of spoil material likely to be generated
 - b) proposed strategies for the handling, stockpiling, reuse/recycling and disposal of spoil
 - c) the need to maximise reuse of spoil material in the construction industry
 - d) identification of the history of spoil material and whether there is any likelihood of contaminated material, and if so, measures for the management of any contaminated material
 - e) designation of transportation routes for transport of spoil.
- Provide details of procedures for the assessment, handling, storage, transport and disposal of all hazardous and dangerous materials used, stored, processed or disposed of at the site, in addition to the requirements for liquid and non-liquid wastes.
- Provide details of the type and quantity of any chemical substances to be used or stored and describe arrangements for their safe use and storage.
- Reference should be made to the guidelines: EPA's *Waste Classification Guidelines 2014 (as amended from time to time)*

ESD

- Demonstrate that the planning process and any subsequent development incorporates objectives and mechanisms for achieving ESD, including:
 - a) an assessment of a range of options available for use of the resource, including the benefits of each option to future generationsproper valuation and pricing of environmental resources
 - b) identification of who will bear the environmental costs of the proposal.

3. Rehabilitation

- Outline considerations of site maintenance, and proposed plans for the final condition of the site (ensuring its suitability for future uses).

4. Consideration of alternatives and justification for the proposal

- Consider the environmental consequences of adopting alternatives, including alternative:
 - a) sites and site layouts
 - b) access modes and routes
 - c) materials handling and production processes
 - d) waste and water management
 - e) impact mitigation measures
 - f) energy sources
- Selection of the preferred option should be justified in terms of:
 - a) ability to satisfy the objectives of the proposal
 - b) relative environmental and other costs of each alternative
 - c) acceptability of environmental impacts and contribution to identified environmental objectives
 - d) acceptability of any environmental risks or uncertainties
 - e) reliability of proposed environmental impact mitigation measures
 - f) efficient use (including maximising re-use) of land, raw materials, energy and other resources.

C The location

1. General

- Provide an overview of the affected environment to place the proposal in its local and regional environmental context including:
 - a) meteorological data (e.g. rainfall, temperature and evaporation, wind speed and direction)
 - b) topography (landform element, slope type, gradient and length)
 - c) surrounding land uses (potential synergies and conflicts)
 - d) geomorphology (rates of landform change and current erosion and deposition processes)
 - e) soil types and properties (including erodibility; engineering and structural properties; dispersibility; permeability; presence of acid sulfate soils and potential acid sulfate soils)
 - f) ecological information (water system habitat, vegetation, fauna)
 - g) availability of services and the accessibility of the site for passenger and freight transport.

2. Air

- Describe the topography and surrounding land uses. Provide details of the exact locations of dwellings, schools and hospitals. Where appropriate provide a perspective view of the study area such as the terrain file used in dispersion models.
- Describe surrounding buildings that may effect plume dispersion.
- Provide and analyse site representative data on following meteorological parameters:
 - a) temperature and humidity
 - b) rainfall, evaporation and cloud cover
 - c) wind speed and direction
 - d) atmospheric stability class
 - e) mixing height (the height that emissions will be ultimately mixed in the atmosphere)
 - f) katabatic air drainage
 - g) air re-circulation.

3. Noise and vibration

- Identify any noise sensitive locations likely to be affected by activities at the site, such as residential properties, schools, churches, and hospitals. Typically the location of any noise sensitive locations in relation to the site should be included on a map of the locality.
- Identify the land use zoning of the site and the immediate vicinity and the potentially affected areas.

4. Water

- Describe the catchment including proximity of the development to any waterways and provide an assessment of their sensitivity/significance from a public health, ecological and/or economic perspective. The Water Quality and River Flow Objectives on the website: <http://www.environment.nsw.gov.au/ieo/index.htm> should be used to identify the agreed environmental values and human uses for any affected waterways. This will help with the description of the local and regional area.

5. Soil Contamination Issues

- Provide details of site history – if earthworks are proposed, this needs to be considered with regard to possible soil contamination, for example if the site was previously a landfill site or if irrigation of effluent has occurred.

D Identification and prioritisation of issues / scoping of impact assessment

- Provide an overview of the methodology used to identify and prioritise issues. The methodology should take into account:
 - a) relevant NSW government guidelines
 - b) industry guidelines
 - c) EISs for similar projects
 - d) relevant research and reference material
 - e) relevant preliminary studies or reports for the proposal
 - f) consultation with stakeholders.
- Provide a summary of the outcomes of the process including:
 - a) all issues identified including local, regional and global impacts (e.g. increased/ decreased greenhouse emissions)
 - b) key issues which will require a full analysis (including comprehensive baseline assessment)
 - c) issues not needing full analysis though they may be addressed in the mitigation strategy
 - d) justification for the level of analysis proposed (the capacity of the proposal to give rise to high concentrations of pollution compared with the ambient environment or environmental outcomes is an important factor in setting the level of assessment).

E The environmental issues

1. General

- The potential impacts identified in the scoping study need to be assessed to determine their significance, particularly in terms of achieving environmental outcomes, and minimising environmental pollution.
- Identify gaps in information and data relevant to significant impacts of the proposal and any actions proposed to fill those information gaps so as to enable development of appropriate management and mitigation measures. This is in accordance with ESD requirements.

Note: The level of detail should match the level of importance of the issue in decision making which is dependent on the environmental risk.

Describe baseline conditions

- Provide a description of existing environmental conditions for any potential impacts.

Assess impacts

- For any potential impacts relevant for the assessment of the proposal provide a detailed analysis of the impacts of the proposal on the environment including the cumulative impact of the proposal on the receiving environment especially where there are sensitive receivers.
- Describe the methodology used and assumptions made in undertaking this analysis (including any modelling or monitoring undertaken) and indicate the level of confidence in the predicted outcomes and the resilience of the environment to cope with the predicted impacts.
- The analysis should also make linkages between different areas of assessment where necessary to enable a full assessment of environmental impacts e.g. assessment of impacts on air quality will often need to draw on the analysis of traffic, health, social, soil and/or ecological systems impacts; etc.
- The assessment needs to consider impacts at all phases of the project cycle including: exploration (if relevant or significant), construction, routine operation, start-up operations, upset operations and decommissioning if relevant.
- The level of assessment should be commensurate with the risk to the environment.

Describe management and mitigation measures

- Describe any mitigation measures and management options proposed to prevent, control, abate or mitigate identified environmental impacts associated with the proposal and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.
- Proponents are expected to implement a 'reasonable level of performance' to minimise environmental impacts. The proponent must indicate how the proposal meets reasonable levels of performance. For example, reference technology based criteria if available, or identify good practice for this type of activity or development. A 'reasonable level of performance' involves adopting and implementing technology and

management practices to achieve certain pollutant emissions levels in economically viable operations. Technology-based criteria evolve gradually over time as technologies and practices change.

- Use environmental impacts as key criteria in selecting between alternative sites, designs and technologies, and to avoid options having the highest environmental impacts.
- Outline any proposed approach (such as an Environmental Management Plan) that will demonstrate how commitments made in the EIS will be implemented. Areas that should be described include:
 - a) operational procedures to manage environmental impacts
 - b) monitoring procedures
 - c) training programs
 - d) community consultation
 - e) complaint mechanisms including site contacts
 - f) strategies to use monitoring information to improve performance
 - g) strategies to achieve acceptable environmental impacts and to respond in event of exceedences.

4. Air

Describe baseline conditions

- Provide a description of existing air quality and meteorology, using existing information and site representative ambient monitoring data.

Assess impacts

- Identify all pollutants of concern and estimate emissions by quantity (and size for particles), source and discharge point.
- Estimate the resulting ground level concentrations of all pollutants. Where necessary (e.g. potentially significant impacts and complex terrain effects), use an appropriate dispersion model to estimate ambient pollutant concentrations. Discuss choice of model and parameters with the EPA.
- Describe the effects and significance of pollutant concentration on the environment, human health, amenity and regional ambient air quality standards or goals.
- Describe the contribution that the development will make to regional and global pollution, particularly in sensitive locations.
- For potentially odorous emissions provide the emission rates in terms of odour units (determined by techniques compatible with EPA procedures). Use sampling and analysis techniques for individual or complex odours and for point or diffuse sources, as appropriate.

Note: With dust and odour, it may be possible to use data from existing similar activities to generate emission rates.

- Reference should be made to relevant guidelines, including *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (DEC, 2016); *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW* (DEC, 2007); *Assessment and Management of Odour from Stationary Sources in*

NSW (DEC, 2006); *Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW* (DEC, 2006); *Load Calculation Protocol for use by holders of NSW Environment Protection Licences when calculating Assessable Pollutant Loads* (DECC, 2009).

Describe management and mitigation measures

- Outline specifications of pollution control equipment (including manufacturer's performance guarantees where available) and management protocols for both point and fugitive emissions. Where possible, this should include cleaner production processes.

5. Noise and vibration

Describe baseline conditions

- Determine the existing background (LA90) and ambient (LAeq) noise levels, as relevant, in accordance with the *NSW Noise Policy for Industry*.
- Determine the existing road traffic noise levels in accordance with the *NSW Road Noise Policy*, where road traffic noise impacts may occur.
- The noise impact assessment report should provide details of all monitoring of existing ambient noise levels including:
 - a) details of equipment used for the measurements
 - b) a brief description of where the equipment was positioned
 - c) a statement justifying the choice of monitoring site(s), including the procedure used to choose the site(s), having regards to Fact Sheets A and B of the *NSW Noise Policy for Industry*.
 - d) details of the exact location of the monitoring site and a description of land uses in surrounding areas
 - e) a description of the dominant and background noise sources at the site
 - f) day, evening and night assessment background levels for each day of the monitoring period
 - g) the final Rating Background Level (RBL) value
 - h) graphs of the measured noise levels for each day should be provided
 - i) a record of periods of affected data (due to adverse weather and extraneous noise), methods used to exclude invalid data and a statement indicating the need for any re-monitoring.

Assess impacts

- Determine the project noise trigger levels for the site. For each identified potentially affected receiver, this should include:
 - a) determination of the project intrusive noise level for each identified potentially affected receiver
 - b) selection and justification of the appropriate amenity category for each identified potentially affected receiver

- c) determination of the project amenity noise level for each receiver
- d) determination of the appropriate maximum noise level event assessment (sleep disturbance) trigger level.
- Maximum noise levels during night-time period (10pm-7am) should be assessed to analyse possible effects on sleep. Determine expected noise level and noise character likely to be generated from noise sources during:
 - a) site establishment
 - b) construction
 - c) operational phases
 - d) transport including traffic noise generated by the proposal
 - e) other services.

Note: The noise impact assessment report should include noise source data for each source in 1/1 or 1/3 octave band frequencies including methods for references used to determine noise source levels. Noise source levels and characteristics can be sourced from direct measurement of similar activities or from literature (if full references are provided).

- Determine the noise levels likely to be received at the reasonably most affected location(s) (these may vary for different activities at each phase of the development).
- The noise impact assessment report should include:
 - a) a plan showing the assumed location of each noise source for each prediction scenario
 - b) a list of the number and type of noise sources used in each prediction scenario to simulate all potential significant operating conditions on the site
 - c) any assumptions made in the predictions in terms of source heights, directivity effects, shielding from topography, buildings or barriers, etc
 - d) methods used to predict noise impacts including identification of any noise models used.
 - e) the weather conditions considered for the noise predictions
 - f) the predicted noise impacts from each noise source as well as the combined noise level for each prediction scenario
 - g) for developments where a significant level of noise impact is likely to occur, noise contours for the key prediction scenarios should be derived
 - h) an assessment of the need to include modification factors as detailed in Fact Sheet C of the *NSW Noise Policy for Industry*.
- Discuss the findings from the predictive modelling and, where relevant noise criteria have not been met, recommend additional feasible and reasonable mitigation measures.
- The noise impact assessment report should include details of any mitigation proposed including the attenuation that will be achieved and the revised noise impact predictions following mitigation.
 - a) Where relevant noise/vibration levels cannot be met after application of all feasible and reasonable mitigation measures the residual level of noise impact needs to be quantified
- For the assessment of existing and future traffic noise, details of data for the road should be included such as assumed traffic volume; percentage heavy vehicles by time of day; and details of the calculation process. These details should be consistent with any traffic study carried out in the EIS.

- Where blasting is intended an assessment in accordance with the *Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration* (ANZECC, 1990) should be undertaken. The following details of the blast design should be included in the noise assessment:
 - a) bench height, burden spacing, spacing burden ratio
 - b) blast hole diameter, inclination and spacing
 - c) type of explosive, maximum instantaneous charge, initiation, blast block size, blast frequency.

Describe management and mitigation measures

- Determine the most appropriate noise mitigation measures and expected noise reduction including both noise controls and management of impacts for both construction and operational noise. This will include selecting quiet equipment and construction methods, noise barriers or acoustic screens, location of stockpiles, temporary offices, compounds and vehicle routes, scheduling of activities, etc.
- For traffic noise impacts, provide a description of the ameliorative measures considered (if required), reasons for inclusion or exclusion, and procedures for calculation of noise levels including ameliorative measures. Also include, where necessary, a discussion of any potential problems associated with the proposed ameliorative measures, such as overshadowing effects from barriers. Appropriate ameliorative measures may include:
 - a) use of alternative transportation modes, alternative routes, or other methods of avoiding the new road usage
 - b) control of traffic (eg: limiting times of access or speed limitations)
 - c) resurfacing of the road using a quiet surface
 - d) use of (additional) noise barriers or bunds
 - e) treatment of the façade to reduce internal noise levels buildings where the night-time criteria is a major concern
 - f) more stringent limits for noise emission from vehicles (i.e. using specially designed 'quite' trucks and/or trucks to use air bag suspension
 - g) driver education
 - h) appropriate truck routes
 - i) limit usage of exhaust brakes
 - j) use of premium muffles on trucks
 - k) reducing speed limits for trucks
 - l) ongoing community liaison and monitoring of complaints
 - m) phasing in the increased road use.

4. Water

Describe baseline conditions

- Describe existing surface and groundwater quality – an assessment needs to be undertaken for any water resource likely to be affected by the proposal and for all conditions (e.g. a wet weather sampling program is needed if runoff events may cause impacts).
Note: Methods of sampling and analysis need to conform with an accepted standard (e.g. Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC 2004) or be approved and analyses undertaken by accredited laboratories).
- Provide site drainage details and surface runoff yield.
- State the ambient Water Quality and River Flow Objectives for the receiving waters. These refer to the community's agreed environmental values and human uses endorsed by the Government as goals for the ambient waters. These environmental values are published on the website: <http://www.environment.nsw.gov.au/ieo/index.htm>. The EIS should state the environmental values listed for the catchment and waterway type relevant to your proposal. NB: A consolidated and approved list of environmental values are not available for groundwater resources. Where groundwater may be affected the EIS should identify appropriate groundwater environmental values and justify the choice.
- State the indicators and associated trigger values or criteria for the identified environmental values. This information should be sourced from the ANZECC 2000 *Guidelines for Fresh and Marine Water Quality* (<http://www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.html>) (Note that, as at 2004, the NSW Water Quality Objectives booklets and website contain technical criteria derived from the 1992 version of the ANZECC Guidelines. The Water Quality Objectives remain as Government Policy, reflecting the community's environmental values and long-term goals, but the technical criteria are replaced by the more recent ANZECC 2000 Guidelines). NB: While specific guidelines for groundwater are not available, the ANZECC 2000 Guidelines endorse the application of the trigger values and decision trees as a tool to assess risk to environmental values in groundwater.
- State any locally specific objectives, criteria or targets, which have been endorsed by the government e.g. the Healthy Rivers Commission Inquiries or the NSW Salinity Strategy (DLWC, 2000) (<http://www.environment.nsw.gov.au/salinity/government/nswstrategy.htm>).
- Where site specific studies are proposed to revise the trigger values supporting the ambient Water Quality and River Flow Objectives, and the results are to be used for regulatory purposes (e.g. to assess whether a licensed discharge impacts on water quality objectives), then prior agreement from the EPA on the approach and study design must be obtained.
- Describe the state of the receiving waters and relate this to the relevant Water Quality and River Flow Objectives (i.e. are Water Quality and River Flow Objectives being achieved?). Proponents are generally only expected to source available data and information. However, proponents of large or high risk developments may be required to collect some ambient water quality / river flow / groundwater data to enable a suitable level of impact assessment. Issues to include in the description of the receiving waters could include:
 - a) lake or estuary flushing characteristics
 - b) specific human uses (e.g. exact location of drinking water offtake)
 - c) sensitive ecosystems or species conservation values
 - d) a description of the condition of the local catchment e.g. erosion levels, soils, vegetation cover, etc

- e) an outline of baseline groundwater information, including, but not restricted to, depth to watertable, flow direction and gradient, groundwater quality, reliance on groundwater by surrounding users and by the environment
- f) historic river flow data where available for the catchment.

Assess impacts

- No proposal should breach clause 120 of the *Protection of the Environment Operations Act 1997* (i.e. pollution of waters is prohibited unless undertaken in accordance with relevant regulations).
- Identify and estimate the quantity of all pollutants that may be introduced into the water cycle by source and discharge point including residual discharges after mitigation measures are implemented.
- Include a rationale, along with relevant calculations, supporting the prediction of the discharges.
- Describe the effects and significance of any pollutant loads on the receiving environment. This should include impacts of residual discharges through modelling, monitoring or both, depending on the scale of the proposal. Determine changes to hydrology (including drainage patterns, surface runoff yield, flow regimes, wetland hydrologic regimes and groundwater).
- Describe water quality impacts resulting from changes to hydrologic flow regimes (such as nutrient enrichment or turbidity resulting from changes in frequency and magnitude of stream flow).
- Identify any potential impacts on quality or quantity of groundwater describing their source.
- Identify potential impacts associated with geomorphological activities with potential to increase surface water and sediment runoff or to reduce surface runoff and sediment transport. Also consider possible impacts such as bed lowering, bank lowering, instream siltation, floodplain erosion and floodplain siltation.
- Identify impacts associated with the disturbance of acid sulfate soils and potential acid sulfate soils.
- Containment of spills and leaks shall be in accordance with EPA's guidelines section 'Bunding and Spill Management' at <http://www.epa.nsw.gov.au/mao/bundingspill.htm> and the most recent versions of the Australian Standards referred to in the Guidelines. Containment should be designed for no-discharge.
- The significance of the impacts listed above should be predicted. When doing this it is important to predict the ambient water quality and river flow outcomes associated with the proposal and to demonstrate whether these are acceptable in terms of achieving protection of the Water Quality and River Flow Objectives. In particular the following questions should be answered:
 - a) will the proposal protect Water Quality and River Flow Objectives where they are currently achieved in the ambient waters; and
 - b) will the proposal contribute towards the achievement of Water Quality and River Flow Objectives over time, where they are not currently achieved in the ambient waters.
- Consult with the EPA as soon as possible if a mixing zone is proposed (a mixing zone could exist where effluent is discharged into a receiving water body, where the quality of the water being discharged does not immediately meet water quality objectives. The mixing zone could result in dilution, assimilation and decay of the effluent to allow water quality objectives to be met further downstream, at the edge of the mixing zone). The EPA will advise the proponent under what conditions a mixing zone will and will not be acceptable, as well as the information and modelling requirements for assessment.

Note: The assessment of water quality impacts needs to be undertaken in a total catchment management context to provide a wide perspective on development impacts, in particular cumulative impacts.

- Where a licensed discharge is proposed, provide the rationale as to why it cannot be avoided through application of a reasonable level of performance, using available technology, management practice and industry guidelines.
- Where a licensed discharge is proposed, provide the rationale as to why it represents the best environmental outcome and what measures can be taken to reduce its environmental impact.
- Reference should be made to relevant guidelines including *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004), *Guidelines for Fresh and Marine Water Quality* (ANZECC 2000), *Environmental Guidelines: Use of effluent by Irrigation* (DEC, 2004) >.

Describe management and mitigation measures

- Outline stormwater management to control pollutants at the source and contain them within the site. Also describe measures for maintaining and monitoring any stormwater controls.
- Outline erosion and sediment control measures directed at minimising disturbance of land, minimising water flow through the site and filtering, trapping or detaining sediment. Also include measures to maintain and monitor controls as well as rehabilitation strategies.
- Describe waste water treatment measures that are appropriate to the type and volume of waste water and are based on a hierarchy of avoiding generation of waste water; capturing all contaminated water (including stormwater) on the site; reusing/recycling waste water; and treating any unavoidable discharge from the site to meet specified water quality requirements.
- Outline pollution control measures relating to storage of materials, possibility of accidental spills (e.g. preparation of contingency plans), appropriate disposal methods, and generation of leachate.
- Describe hydrological impact mitigation measures including:
 - a) site selection (avoiding sites prone to flooding and waterlogging, actively eroding or affected by deposition)
 - b) minimising runoff
 - c) minimising reductions or modifications to flow regimes
 - d) avoiding modifications to groundwater.
- Describe groundwater impact mitigation measures including:
 - a) site selection
 - b) retention of native vegetation and revegetation
 - c) artificial recharge
 - d) providing surface storages with impervious linings
 - e) monitoring program.
- Describe geomorphological impact mitigation measures including:
 - a) site selection
 - b) erosion and sediment controls
 - c) minimising instream works
 - d) treating existing accelerated erosion and deposition

- e) monitoring program.
- Any proposed monitoring should be undertaken in accordance with the *Approved Methods for the Sampling and Analysis of Water Pollutants in NSW* (DEC 2004).

5. Soils and contamination

Describe baseline conditions

- Provide any details (in addition to those provided in the location description - Section C) that are needed to describe the existing situation in terms of soil types and properties and soil contamination.

Assess impacts

- Identify any likely impacts resulting from the construction or operation of the proposal, including the likelihood of:
 - a) disturbing any existing contaminated soil
 - b) contamination of soil by operation of the activity
 - c) subsidence or instability
 - d) soil erosion
 - e) disturbing acid sulfate or potential acid sulfate soils.
- Reference should be made to relevant guidelines including *Contaminated Sites – Guidelines for Consultants Reporting on Contaminated Sites* (OEH, 2011); *Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997* (EPA, 2015)>.

Describe management and mitigation measures

- Describe and assess the effectiveness or adequacy of any soil management and mitigation measures during construction and operation of the proposal including:
 - a) erosion and sediment control measures
 - b) proposals for site remediation – see *Managing Land Contamination, Planning Guidelines SEPP 55 – Remediation of Land* (Department of Urban Affairs and Planning and Environment Protection Authority, 1998)
 - c) proposals for the management of these soils – see *Acid Sulfate Soil Manual* (Acid Sulfate Soil Advisory Committee 1998) and *Acid Sulfate Soils Assessment Guidelines* (Acid Sulfate Soil Advisory Committee 1998).

6. Waste and chemicals

Describe baseline conditions

- Describe any existing waste or chemicals operations related to the proposal.

Assess impacts

- Assess the adequacy of proposed measures to minimise natural resource consumption and minimise impacts from the handling, transporting, storage, processing and reprocessing of waste and/or chemicals.
- Reference should be made to: the EPA's *Waste Classification Guidelines 2014 (as in force from time to time)*
- If the proposal is an energy from waste facility it must:
 - demonstrate that the proposed operation will comply with the NSW EPA's Energy from Waste Policy Statement;
 - describe of the classes and quantities of waste that would be thermally treated at the facility;
 - demonstrate that waste used as a feedstock in the waste to energy plant would be the residual from a resource recovery process that maximises the recovery of material;
 - detail procedures that would be implemented to control the inputs to the waste to energy plant, including contingency measures that would be implemented if inappropriate materials are identified;
 - detail the location and size of stockpiles of unprocessed and processed recycled waste at the site;
 - demonstrate any waste material (e.g. biochar, ash) produced from the waste to energy facility for land application is fit-for-purpose and poses minimal risk of harm to the environment in order to meet the requirements for consideration of a resource recovery order and /or exemption by the EPA;
 - detail procedures for the management of other solid, liquid and gaseous waste streams;
 - describe how waste would be treated, stored, used, disposed and handled on site, and transported to and from the site, and the potential impacts associated with these issues, including current and future offsite waste disposal methods; and
 - identify the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*.

Describe management and mitigation measures

- Outline measures to minimise the consumption of natural resources.
- Outline measures to avoid the generation of waste and promote the re-use and recycling and reprocessing of any waste.
- Outline measures to support any approved regional or industry waste plans.

7. Cumulative impacts

- Identify the extent that the receiving environment is already stressed by existing development and background levels of emissions to which this proposal will contribute.
- Assess the impact of the proposal against the long term air, noise and water quality objectives for the area or region.
- Identify infrastructure requirements flowing from the proposal (e.g. water and sewerage services, transport infrastructure upgrades).
- Assess likely impacts from such additional infrastructure and measures reasonably available to the proponent to contain such requirements or mitigate their impacts (e.g. travel demand management strategies).

F. List of approvals and licences

- Identify all approvals and licences required under environment protection legislation including details of all scheduled activities, types of ancillary activities and types of discharges (to air, land, water).

G. Compilation of mitigation measures

- Outline how the proposal and its environmental protection measures would be implemented and managed in an integrated manner so as to demonstrate that the proposal is capable of complying with statutory obligations under EPA licences or approvals (e.g. outline of an environmental management plan).
- The mitigation strategy should include the environmental management and cleaner production principles which would be followed when planning, designing, establishing and operating the proposal. It should include two sections, one setting out the program for managing the proposal and the other outlining the monitoring program with a feedback loop to the management program.

H. Justification for the Proposal

- Reasons should be included which justify undertaking the proposal in the manner proposed, having regard to the potential environmental impacts.

ATTACHMENT C: GUIDANCE MATERIAL

Title	Web address
Relevant Legislation	
<i>Contaminated Land Management Act 1997</i>	http://www.legislation.nsw.gov.au/#/view/act/1997/140
<i>Environmentally Hazardous Chemicals Act 1985</i>	http://www.legislation.nsw.gov.au/#/view/act/1985/14
<i>Environmental Planning and Assessment Act 1979</i>	http://www.legislation.nsw.gov.au/#/view/act/1979/203
<i>Protection of the Environment Operations Act 1997</i>	http://www.legislation.nsw.gov.au/#/view/act/1997/156
<i>Water Management Act 2000</i>	http://www.legislation.nsw.gov.au/#/view/act/2000/92
Licensing	
Guide to Licensing	www.epa.nsw.gov.au/licensing/licenceguide.htm
Air Issues	
Air Quality	
Approved methods for modelling and assessment of air pollutants in NSW (2016)	http://www.epa.nsw.gov.au/air/appmethods.htm
POEO (Clean Air) Regulation 2010	http://www.legislation.nsw.gov.au/#/view/regulation/2010/428
Noise and Vibration	
NSW Noise Policy for Industry	http://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/noise-policy-for-industry-(2017)
Interim Construction Noise Guideline (DECC, 2009)	http://www.epa.nsw.gov.au/noise/constructnoise.htm
Assessing Vibration: a technical guideline (DEC, 2006)	http://www.epa.nsw.gov.au/noise/vibrationguide.htm
NSW Road Noise Policy (DECCW, 2011)	http://www.epa.nsw.gov.au/your-environment/noise/transport-noise
NSW Rail Infrastructure Noise Guideline (EPA, 2013)	http://www.epa.nsw.gov.au/your-environment/noise/transport-noise
Human Health Risk Assessment	

Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards (enHealth, 2012)	http://www.eh.org.au/documents/item/916
Waste, Chemicals and Hazardous Materials and Radiation	
Waste	
Environmental Guidelines: Solid Waste Landfills (EPA, 2016)	http://www.epa.nsw.gov.au/waste/landfill-sites.htm
Draft Environmental Guidelines - Industrial Waste Landfilling (April 1998)	http://www.epa.nsw.gov.au/resources/waste/envguidlms/industrialfill.pdf
EPA's Waste Classification Guidelines 2014	http://www.epa.nsw.gov.au/wasteregulation/classify-guidelines.htm
Resource recovery orders and exemptions	http://www.epa.nsw.gov.au/wasteregulation/orders-exemptions.htm
European Unions Waste Incineration Directive 2000	http://ec.europa.eu/environment/archives/air/stationary/wid/legislation.htm
EPA's Energy from Waste Policy Statement	http://www.epa.nsw.gov.au/wastestrategy/energy-from-waste.htm
NSW Waste Avoidance and Resource Recovery Strategy 2014-2021	http://www.epa.nsw.gov.au/wastestrategy/warr.htm
Chemicals subject to Chemical Control Orders	
Chemical Control Orders (regulated through the EHC Act)	http://www.epa.nsw.gov.au/pesticides/CCOs.htm
National Protocol - Approval/Licensing of Trials of Technologies for the Treatment/Disposal of Schedule X Wastes - July 1994	Available in libraries
National Protocol for Approval/Licensing of Commercial Scale Facilities for the Treatment/Disposal of Schedule X Wastes - July 1994	Available in libraries
Water and Soils	
Acid sulphate soils	
Coastal acid sulfate soils guidance material	http://www.environment.nsw.gov.au/acidsulfatesoil/ and http://www.epa.nsw.gov.au/mao/acidsulfatesoils.htm
Acid Sulfate Soils Planning Maps	http://www.environment.nsw.gov.au/acidsulfatesoil/riskmaps.htm
Contaminated Sites Assessment and Remediation	
Managing land contamination: Planning Guidelines – SEPP 55 Remediation of Land	http://www.epa.nsw.gov.au/clm/planning.htm

Guidelines for Consultants Reporting on Contaminated Sites (EPA, 2000)	http://www.epa.nsw.gov.au/resources/clm/20110650consultantsgline.pdf
Guidelines for the NSW Site Auditor Scheme - 2nd edition (DEC, 2006)	http://www.epa.nsw.gov.au/resources/clm/auditorglines06121.pdf
Sampling Design Guidelines (EPA, 1995)	http://www.epa.nsw.gov.au/resources/clm/95059samppgdline.pdf
National Environment Protection (Assessment of Site Contamination) Measure 1999 (or update)	http://www.scew.gov.au/nepms/assessment-site-contamination
Soils – general	
Managing land and soil	http://www.environment.nsw.gov.au/soils/landandsoil.htm
Managing urban stormwater for the protection of soils	http://www.environment.nsw.gov.au/stormwater/publications.htm
Landslide risk management guidelines	http://australiangeomechanics.org/admin/wp-content/uploads/2010/11/LRM2000-Concepts.pdf
Site Investigations for Urban Salinity (DLWC, 2002)	http://www.environment.nsw.gov.au/resources/salinity/booklet3siteinvestigationsforurbansalinity.pdf
Local Government Salinity Initiative Booklets	http://www.environment.nsw.gov.au/salinity/solutions/urban.htm
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	http://www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.html
Applying Goals for Ambient Water Quality Guidance for Operations Officers - Mixing Zones	Contact the EPA on 131555
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf

14 January 2020

The Director
Department of Planning, Industry and Environment
320 Pitt Street
SYDNEY NSW 2000

Attention: Katelyn Symington

Dear Sir/Madam

**BREEN RESOURCE RECOVERY FACILITY
330 CAPTAIN COOK DRIVE, KURNELL**

Reference is made to the above mentioned matter that was referred to Roads and Maritime Services (Roads and Maritime), now Transport for NSW (TfNSW), via the Department of Planning, Industry and Environment (DPIE) Major Projects Portal on 13 December 2019 for concurrence in accordance with Section 138 of the *Roads Act, 1993*. On 1 December 2019, legislation came into effect to bring Roads and Maritime and TfNSW together as one organisation.

TfNSW requests that the following issues to be included in the transport and traffic impact assessment of the proposed development:

1. Details of all traffic types and volumes likely to be generated during construction and operation, including a description of haul routes. Traffic flows are to be shown diagrammatically using representative design vehicle to a level of detail sufficient for easy interpretation. This should include the impact on nearby intersections and the need/associated funding for upgrading or road improvement works (if required).

All affected intersections should be examined / modelled. These should include, but not be limited to:

- a. Captain Cook Drive/Elouera Road
 - b. Captain Cook Drive/Woollooware Road
2. Details of the proposed accesses and the parking provisions associated with the proposed redevelopment including compliance with the requirements of the relevant Australian Standards (ie: turn paths, sight distance requirements, aisle widths, etc).
 3. Dangerous goods routes, if applicable, should be assessed and mapped.
 4. A time of day profile that separates heavy and light vehicles for each hour of operation on an average weekday should be provided. This should include an estimation of the distribution of traffic over 7 days.

5. A demonstration how the capacity of the waste processing and handling facilities will match the estimated truck demand (to minimise storage and double handling of materials, and ensure queues do not tail back onto Lindum Road).
6. The safety of recreational vehicles (i.e. four wheel drive traffic and cyclists) is to be assessed and addressed with heavy vehicles accessing the site.
7. It should be ascertained if there is a risk of truck rollovers (particularly for bulk carriers/wagons) and whether sensitive parklands and waterways need additional protections (such as wire safety barriers) in these locations.
8. Proposed number of car parking spaces and compliance with the appropriate parking codes.
9. Details of light and heavy vehicle movements (including vehicle type and likely arrival and departure times).
10. To ensure that the above requirements are fully addressed, the transport and traffic study must properly ascertain the cumulative study area traffic impacts associated with the redevelopment (and any other known proposed developments in the area). This process provides an opportunity to identify a package of traffic and transport infrastructure measures required to support future development. Regional and local intersection and road improvements, vehicular access options for adjoining sites, public transport needs, the timing and cost of infrastructure works and the identification of funding responsibilities associated with the development should be identified.
11. The Environmental Assessment report to assess the implications of the proposed development for non-car travel modes (including public transport use, walking and cycling); the potential for implementing a location-specific sustainable travel plan (eg 'Travelsmart' or other travel behaviour change initiative); and the provision of facilities to increase the non-car mode share for travel to and from the site. This will entail an assessment of the accessibility of the development site by public transport.

If you have any further inquiries in relation to the subject application, please contact Kerry Ryan, Development Assessment Officer, on 8849 2008 or by email at Development.Sydney@rms.nsw.gov.au.

Yours sincerely



Brendan Pegg
Senior Land Use Planner
South East Precinct, Greater Sydney Division